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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,770	01/21/2004	Douglas E. Weiss	59420US002	3526

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EXAMINER
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KHATRI, PRANAV V

ART UNIT	PAPER NUMBER
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2872

DATE MAILED: 03/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/761,770

Applicant(s)

WEISS ET AL.

Examiner

Pranav V. Khatri

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>09/19/05, 07/01/05</u>  | 6) <input type="checkbox"/> Other: _____                                    |

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 17-24, and 26-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Nielsen et al. (US Patent No. 6,652,954).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claim 1, Nielsen et al. discloses a pavement marking (see Field of the invention Col 1 lines 8-11) comprising a plurality of retroreflective elements (Fig 1, Numeral 28) partially embedded in a binder (30) wherein the retroreflective elements have an exposed outer viewing surface (retroreflective elements 28 are exposed to be viewed from the outside) comprising retroreflective sheeting (26) and a layer beneath the viewing surface comprising a shrunk film layer (34, which is an adhesive layer is

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taken as the shrunk film layer; it is taken as a shrunk film layer because an adhesive layer expands and reduces its size during high and low temperatures).

Regarding claim 17, Nielsen et al. discloses a retroreflective element (fig 2) comprising an exposed outer viewing surface (retroreflective element in fig 2 from the outside) comprising retroreflective sheeting (26) and a layer beneath the viewing surface comprising a shrunk film layer (34).

Regarding claim 18, Nielsen et al. discloses wherein the element comprises a substantially solid core (Fig 2).

Regarding claim 19, Nielsen et al. discloses wherein the element is at least partially filled (fig 2 Numeral 28 is partially filled with 30) with at least one material selected from the shrinkable film, a filament, a polymeric material (30), and combinations thereof.

Regarding claim 20, Nielsen et al. discloses a retroreflective article (fig 2) comprising the retroreflective elements (28) of claim 17 at least partially embedded in a binder (30).

Regarding claim 21, Nielsen et al. discloses wherein the article is retroreflective sheeting (26).

Regarding claim 22, Nielsen et al. discloses wherein the article is selected from the group consisting of signs, tapes (see Col 1 lines 7-11), personal safety apparel, and traffic devices (abstract Lines 7-10).

Regarding claim 23, Nielsen et al. discloses wherein a surface comprising a plurality of the retroreflective elements (28) of claim 17 partially embedded in a binder (30).

Regarding claim 24, Nielsen et al. discloses wherein a laminate (24) comprising retroreflective sheeting (26) having a viewing surface (22) and an opposing surface (36) and a shrinkable layer (34) permanently bonded to the opposing surface of the sheeting.

Regarding claim 26-28, Nielsen et al. discloses the method of making retroreflective elements including steps of providing, shrinking and attaching which are inherently met by the disclosure of the prior art.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nielsen et al. (US Patent No. 6,652,954) in view of Sloot et al. (US Patent Application Pub 2002/0186472).

Nielsen et al. discloses the claimed invention as set forth above except for a cross-section of at least a portion of the retroreflective elements comprises an edge of the sheeting in a shape of at least one coil.

However, Slood discloses a cross-section of at least a portion of the retroreflective elements comprises an edge of the sheeting in a shape of at least one coil (see Slood figure 2a).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the shape of Nielsen et al. with a circular shape such as Slood, since such a modification would have involved a new change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966). One could easily change the shape to a coil because a coil would improve the reflecting capability of the retroreflective element, and it would further increase the reflective capability of the pavement marking system.

Regarding claim 3, Nielsen et al. in view of Slood discloses wherein a cross-section of at least a portion of the retroreflective elements comprises an edge of sheeting in a substantially circular shape (see Slood figure 2a)

Claims 4, 5, 9-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nielsen et al. (US Patent No. 6,652,954) in view Stump et al (US Patent No 5,835,271).

Regarding claim 4, Nielsen et al. discloses the claimed invention as set forth above except does not explicitly teach wherein at least a portion of the retroreflective

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elements comprise an outside diameter ranging from about 0.5 mm to 4 mm. (Nielsen et al. shows 0.4mm Col 15 Lines 53-63)

However, Stump et al. discloses wherein at least a portion of the retroreflective elements comprise an outside diameter ranging from about 0.5 mm to 4 mm (Col 5 Line 65 – Col 6 Line 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Nielsen et al. with a retroreflective elements outside diameter of 0.5 mm to 4 mm such as Stump et al. for the purpose of creating a pavement reflector with a specific compact size and for the purpose retroreflecting light at varying angles due to the diameter of retroreflective element.

Regarding claim 5, Nielsen et al. in view of Stump et al. discloses wherein at least a portion of the retroreflective elements comprise a substantially solid core (see Stump et al. Fig 4 and Fig 5).

Regarding claim 9, Nielsen et al. in view of Stump et al. discloses wherein the retroreflective sheeting is selected from the group comprising exposed-lens sheeting and enclosed-lens sheeting (see Stump et al. Col 2 Lines 18-23).

Regarding claim 10, Nielsen et al. in view of Stump et al. discloses wherein the retroreflective sheeting is exposed-lens sheeting comprising a specular reflective coating spaced apart from a monolayer of optical elements (see Stump et al. Col 2 Lines 12-16).

Regarding claim 11, Nielsen et al. in view of Stump et al. discloses wherein the retroreflective sheeting (26) comprises optical elements selected from glass

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microspheres (28), glass-ceramic microspheres, and cube corner elements (see Nielsen et al. Col15 lines 53-63).

Regarding claim 12, Nielsen et al. in view of Stump et al. discloses wherein the optical elements (28) are at least partially embedded in a polymeric layer (30).

Regarding claim 13, Nielsen et al. in view of Stump et al. discloses wherein the optical elements are selected from transparent microspheres (glass microspheres), colored transparent microspheres, and microspheres) having a specular reflecting coating (see Nielsen et al. figure 2 numeral 32).

Regarding claim 14, Nielsen et al. in view of Stump et al. discloses wherein the shrunk film is selected from group consisting of heat shrinkable film and elastomeric film (34 is an adhesive layer which is taken as the shrunk film layer).

Regarding claim 15, Nielsen et al. in view of Stump et al. discloses wherein the heat shrinkable film comprises a cross-linked semi-crystalline polymer (Stump et al. 84, which is made of thermoplastic resin Col 7 Lines 17-18 and Col 3 Lines 13-20, same material as the shrink film comprised of semi-crystalline of the present invention).

Regarding claim 16, Nielsen et al. in view of Stump et al. discloses further comprising at least one group comprising other retroreflective elements, optical elements (Nielsen et al. figure 2, numeral 32), skid particles, and combination thereof.

Claims 6- 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nielsen et al. (US Patent No. 6,652,954) in view of Stump et al (US Patent No 5,835,271) and in further view of Fei (US Patent No. 5,419,651).



Nielsen et al. in view Stump et al. discloses the claimed invention as set forth above except for wherein at least a portion of the retroreflective elements comprise a cavity.

However, Fei teaches at least a portion of the retroreflective elements comprise a cavity (see Fei Col 3 22-23).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the teachings of Nielsen et al. in view Stump et al. retroreflective element with a cavity from Fei because the combination would allow a suitable potting compound to be poured into the open cavity which hardens and produces a secure hermetic seal for the pavement marker (see Fei Col 5 Line 66 – Col 6 Line 3).

Regarding claim 7, as a combination of Nielsen et al. in view of Stump et al. and in further view of Fei discloses wherein the cavity is discontinuous (see Fei Fig 5 Numeral 34 and 36, and Col 3 Lines 30-34, the office interprets 34 and 36 to be breaks or interruptions which is discontinuous).

Regarding claim 8, as a combination Nielsen et al. in view of Stump et al. and in further view of Fei discloses wherein the cavity of at least a portion of the retroreflective elements is at least partially filled with the binder (see Fei Col 3 Lines 26-29).

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nielsen et al. (US Patent No. 6,652,954).

Regarding claim 25, Nielsen et al. discloses the claimed invention except for wherein the unconstrained shrinkable layer shrinks about 150%. It would have been

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obvious to one having ordinary skill in the art at the time the invention was made to have layer which shrinks about 150%, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233

### ***Response to Arguments***

Applicant's arguments, filed 9/19/2005, with respect to claims 1-28 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Nielsen et al. (US Patent No. 6,652,954).


### ***Conclusion***

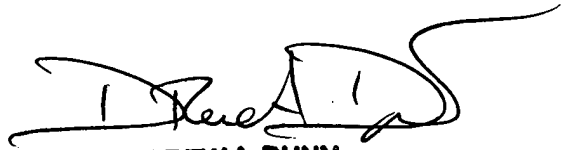
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pranav V. Khatri whose telephone number is 571-272-8311. The examiner can normally be reached on M-F, 8:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Pranav Khatri   
Examiner  
03/20/2006

  
**DREW A. DUNN**  
**SUPERVISORY PATENT EXAMINER**